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Now It Looks Cool: The Effects of Brand Customization On Game Players' Processing Of Brands Embedded In Advergames

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Now It Looks Cool: The Effects of Brand Customization On Game Players' Processing Of Brands Embedded In Advergames

by

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Dedication

To mom, dad, and sister: “Saiu da fornalha!” Ready to serve!

Thank you all for supporting me in my education and for a few words of wisdom throughout the years. Mom has always served as a great example of dedication and caring. Dad, thanks for the unconditional love, you are the biggest example of a hardworking family man.

To grandma Noemia, grandma Quininha, grandpa Pedro, grandpa Zezé, uncle Zeca, aunt Glória, Dudu, and uncle Petrúcio: Thank you all. Family is the most important thing in the world.

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Abstract

Now It Looks Cool: The Effects of Brand Customization On Game Players' Processing Of Brands Embedded In Advergames

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This study examines brand customization in advergames and its effects on brand memory, game enjoyment, and attitudes gamers form toward the embedded brand. This study also tests for interactions between individuals' locus of control and brand customization on the measured variables.

A 2(customization) x 2(locus of control) experimental design was used. Subjects (N=60) were invited to a laboratory and the car racing game Gran Turismo 3™ was used as the advergame. Participants completed a questionnaire before and after treatment

exposure, t-tests were calculated to test the hypotheses, and ANOVAs were run to examine all research questions.

Findings suggest that individuals who customize the brand during gameplay recall the brand almost four times as much as individuals who don't customize the brand. Results also reveal that subjects under the no customization condition negatively described the brand twice as much as subjects under the customization condition. Furthermore, a significant interaction between individuals' locus of control and brand customization on brand recall was detected. There were no significant differences in attitude toward the brand and game enjoyment due to brand customization. Finally, the data didn't demonstrate significant interactions between individuals' locus of control and brand customization for game enjoyment and brand attitude.

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Chapter 1: Introduction

Technological advances, increasing involvement with interactive media, and the lifestyle of the 21st century generation have all contributed to the ongoing changes in the advertising industry. Today's consumers are more willing to give their attention and time to brands that can give them something entertaining - something that they find valuable and can voluntarily engage in (Chang 2009). As result, advertisers are increasingly relying on various modes of interactive technology to advertise and promote their brands (Pavlou and Stewart 2000). One interactive technology that agencies are relying on to attract customers and promote their clients is interactive advertising games, or advergames.

Advergame Market

The advergame industry has generated around $300 million in 2009, up from $83 million in 2004, according to Boston research firm Yankee Group. The latest report from the Entertainment Software Association shows that there are gamers in two-thirds of U.S. households and that a broader audience than the stereotypical male teenager is being reached with 40% of those players being women. These numbers lend evidence that video gaming have become too pervasive for marketers to ignore (Zuckert 2008). Furthermore, there are 27 plus interactive agencies and game developers specialized in the production of advergames (Wise et al. 2008), and many of these interactive agencies appear to be the leading agencies in today's advertising business.

A Brief History of Advergames

Advergames have been described as the combination of the words "advertisement" and "video game" (Grossman 2005). Advergames are a specific type of videogame where only one brand is embedded within or acts as the sole sponsor of the game. Although there is a conceptual overlap, it should be noted that advergames are different from brand placements in more general online games. More specifically, in-game advertising can feature multiple brands where marketers buy product placement or branded space within that game (e.g., Second Life) whereas advergames feature only one brand which is the context for the game itself, and the game is created by the brand's marketers.

Advergame executions range from simply repurposing an existing well-known game (skinning), to feature the brand in the gaming environment, to creating a more elaborate game that involves detailed virtual experiences with the brand's product (Wallace and Robbins 2006). Advergames also come in different forms, but the most interactive gaming platforms that advertising has pursued are "stored" and "online gaming" formats (Faber and Stafford 2005). Stored games come in formats that are console-based. To play these games a person must have the specific video game hardware system and a receiver (e.g., television) to connect it to. To access online advergames, a person must have Internet access and a personal computer or web-based device. These two platforms offer similar content but have differences in methods of access and motivations to access.

Most of the growth in gaming is occurring on the Internet (Faber and Stafford 2005). However, consoles are still an important part of gaming and represent a significant portion of the hardcore gamer demographic (Faber and Stafford 2005). That said, online advergames in turn represent a wider potential audience since Internet accessibility has a higher penetration than console based gaming.

Advergames – Why Bother?

Advergames have worked well for brands such as Nike, McDonalds, Burger King, and Pepsi, and brought excitement to the advertising business due to several principles. First, advergames don't interrupt the consumer's media experience like traditional advertising (Balasubramanian 1994), instead advergames represent a means for brands to be the entertainment rather than just the sponsor (Zuckert 2008). Second, gaming as a medium offers high growth potential without the saturation of TV or online banner ads (Cubarrubia 2007) and other methods of Internet advertising that lost support by marketers due to increasing costs per thousand and decreasing return on investments (Smith 2007).

Third, theories from social psychology, consumer psychology, and human computer interaction suggest that gaming in virtual environments increases affective engagement with the content due to their particular structural features. This, in turn, modifies the way in which embedded advertisements are processed by providing a direct, although virtual, brand experience (Grigorovici and Constantin 2004). According to Vorderer (2000), "advertising games allow player-interactivity and sensory immersion,

which means games may be more vivid, interactive, and adept at stimulating creative thinking and perception than movies" (Steuer 1992; quoted in Nelson, Keum, and Yaros 2004, p. 6). Furthermore, these games can offer players a new experience every time the game is played. Subsequently, a player can experience different emotions, cognitions, and interactions for the same game played at different times. "The varying levels of learning, curiosity, surprise, and suspense molded by game play affect a player's emotions, arousal, and orienting responses" (Grodal 2000; quoted in Nelson, Keum, and Yaros 2004, p. 7).

'Buzz'/viral marketing are "communication tools that capitalize on our natural propensity to share information with others, and research has shown that online game-players are particularly apt to participate in these practices" (Nelson, Keum, and Yaros 2004, p. 4). Last, the amount of time spent interacting with advertising games are much higher than by most media due to its engaging, interactive and narrative characteristics (Deal 2005).

Advergames represents a medium with incredible potential that differs greatly from not only traditional media but also from other forms of Internet advertising that have proven to be less engaging. According to Deal (2005), "past research into attitudes toward interactive advertisements, long exposure times, and other results typically garnered by advergames has shown that these attributes generate increases in brand equity for the advertised product" (p. 1).

Summary

Although there exists a great volume of scholarly literature on how exposure to advertisements and game-brand congruency affect players' attitude toward the brand and brand memory, little research has been conducted about the different effects brand customization may have on gamers' attitude toward the brand, memory for the brand, and game enjoyment (Yang et al. 2006). Therefore, the purpose of this study is to expand on the advertising literature that exists by redirecting the focus to brand customization in advergames and its effect on players' processing of the embedded brand.

This paper analyzes the extant literature on the topic of advergaming to help provide a foundation for this study's primary goal, which is to ultimately answer the questions of how brand customization affects advergames' ability to influence game players' brand memory, attitudes toward the brand, and game enjoyment. Another goal of this study is to test for interactions between locus of control and brand customization on the measured variables.

Therefore, this thesis has three goals: First, it will explain the theoretical frameworks that guide this study and the concept of brand customization. Second, the paper will discuss the variables: brand memory, attitude toward the brand, and game enjoyment. Third, the paper will discuss the method that will be used for this study, which will be a controlled experiment.

The experiment will manipulate one independent variable (brand customization), measure three dependent variables (brand memory, attitude toward the brand, and game enjoyment), and account for one moderating variable (locus of control).

Chapter 2: Literature Review

The literature review is organized in three sections. First the theoretical foundations for this thesis are explained. More specifically, The Elaboration Likelihood Model (an information-processing model) and Locus of Control (a social learning theory) are explicated within the context of brand customization. Second, related studies on advergames and game customization are explored and expanded into the hypotheses. Last, there is a discussion on the impact that locus of control has on the independent and dependent variables.

The Elaboration Likelihood Model

What makes a consumer remember a brand or be persuaded to purchase a particular product is a complex process. One theory commonly used to explain information processing by consumers is the Elaboration Likelihood Model (ELM). Created by Petty and Cacioppo (1983), the ELM posits that people process messages they receive based on their need for cognition or how interested they are with that information. If people are very interested or highly involved, they will process the information through the central route, which involves careful thinking and examination of the message presented (Severin and Tankard 2001). The peripheral route is involved when people are not very interested and do not expend much cognitive energy in the processing and evaluation of the message presented. In this case, more peripheral cues such as message credibility, the style and format of the message or the mood of the receiver are used to

evaluate the message (Severin and Tankard 2001). Therefore, if the peripheral route is used in the information processing, consumers could buy a product based solely on the fact that they like the color of the packaging or if they find the spokesperson attractive. Simply put, elaboration or the cognitive work involved in processing a persuasive message is high in the central route and low in the peripheral route.

The central route forms or changes attitudes by the process of people carefully attending and examining the message presented, and evaluating the message along the dimensions they perceive to be central to the merits of the objects (Brock and Green 2005). A receiver must be motivated and able to elaborate on the persuasive message for it to be processed in the central route. Attitudes formed by central route processing are distinct because they have been found to be relatively easy to be called to mind, relatively persistent and stable over time, relatively resistant to challenge from competing messages, and relatively predictive of the person's attitude-relevant judgments and behavior (Brock and Green 2005).

The peripheral route to persuasion relies on simple cues and shortcuts. People do not always exert considerable effort on all the persuasive communications that they are exposed to; thus the peripheral route is used in information processing (Severin and Tankard 2001). The attitudes formed or changed by the peripheral route are less persistent, less resistant and less predictive of behavior than are attitudes formed or changed by the central route (Severin and Tankard 2001). Situational motivation factors and situational ability factors as well as individual factors tend to affect which route a receiver pursues in processing a persuasive message.

Locus of Control

Developed by Julien Rotter (1966), Locus of Control is a popular variable in social and behavioral science research and has been used extensively (Chang and Ho 2009; Ajzen 2006; Ryan, Rigby, and Przybylski 2006) . In Rotter's conceptualization of locus of control, he uses social learning theory as the general theoretical background to explain how reinforcements and the corresponding effects influence behavior. Social learning theory dictates, "a reinforcement acts to strengthen an expectancy that a particular behavior or event will be followed by that reinforcement in the future" (Rotter 1982, p. 172). This means the way a person perceives the consequences of his or her behavior has an effect on future behavior.

Rotter suggests that individuals differentially perceive gratifications. Moreover, individuals interpret reinforcements based on the accumulation of perceived personal experiences. Rotter sees "generalized expectancies" as being at least partially determined by the method an individual perceives the rewards or reinforcement in his life. In his view, individuals develop a generalized expectancy regarding the nature of the causal relationship between behavior and its consequences. This expectancy has the potential to affect a variety of behavioral choices in several life situations. That is, over the course of a person's life experience he is believed to develop a relatively stable faith in his ability, or lack thereof, to exercise control over things that happen to him in general. According to Rotter, this perception can be internally or externally situated; meaning a person may perceive the outcomes/rewards in his life as being contingent upon his own behavior or attitudes (high internal locus of control) or as being "controlled by forces outside of

himself and may occur independently of his own actions", a function of luck or fate (low on internal locus of control to external) (Rotter 1982).

For example, if a student fails an exam, the student with a high internal locus of control will attribute the outcome of the exam to something internal like not studying hard enough, while the externally oriented student's reaction maybe to blame the teacher for making the test too difficult.

Locus of control can be seen as a continuum from the most internal on one end to the most external on the other. It should not be viewed as an underlying trait that shadows all facets of an individual's life. Unlike traits such as intelligence and competence, locus of control can be better defined as a circumscribed self-appraisal pertaining to the degree to which individuals view themselves as having some causal role in determining specified events. By regarding locus of control in this manner, it is incorrect to label individuals as having either an internal or external locus of control. However, the labels are used as shortcuts to avoid more lengthy descriptions. The terms are not meant to imply that persons cannot exhibit traits from either orientation (Lefcourt 1982). A person's locus of control shadows decisions with regard to behaviors. Although it is an individual level concept, it has implications at both the micro and macro levels of research.

Concept of Customization

Customization refers to the degree to which a technology, good, or service can be created, selected, or changed to comply with user preferences (Kobsa, Koenemann, and Pohl 2001). The concept of customization worked well for brands such as Nike, which

enabled consumers to design their own pair of Nike shoes with Nike iD. In another example, Build-A-Bear broke new ground in the teddy bear industry by inviting kids to use their imaginations and construct their own bears.

In online and video gaming, a related study (Bailey, Wise, and Bolls 2009) found that customization increases the pleasure derived by the gaming experience and the level of interest in the game. Bailey, Wise, and Bolls (2009) found that players who customize their avatars are more likely to increase their feelings of identification and immersion in the game world, subsequently, increasing players intrinsic motivation, making the game more enjoyable, and increasing game players' needs for game exploration. Thus, these findings indicate that customization strongly influences gamer perceptions, encouraging the present study to further investigate the influences of customization.

In the car game used in the current study (Gran Turismo 3™ for PlayStation 2) gamers have the option to go to an auto shop and customize their car. This customization process helps players interact with the game and brand more fully, in a sense giving players a feeling of "ownership" of the car. In this specific game, customization also tends to improve players' performance, and enables them to have a better representation of their choices and more identification with themselves in the game environment. In this case, the game is also more likely to create a higher need for cognition from its players and to provide more opportunities for players to become motivated to carefully attend/examine information relevant to gameplay.

Hypotheses and Research Questions

As the ELM proposes, messages formed by the central route are relatively easy to be called in mind, and forms more persistent and predictive changes in attitudes and intentions. Also, studies indicate that game customization increases the level of presence and game enjoyment among players (Bailey, Wise, and Bolls 2009; Barr, Biddle, and Brown 2006). Furthermore, a related advergame study (Wise et al. 2008) found a positive relationship between enjoyment of gaming experience and positive change in attitude toward the brand when the thematic connection between the brand and the advergame is high.

Moreover, Lutz, MacKenzie, and Belch (1983) systematically describe the relationship between attitude toward the advertisement and attitude toward the brand. Their relationship model uses dual mediation, through which attitude toward the advertisement has both a direct relationship with attitude toward the brand and an indirect relationship through brand cognitions (Wise et al. 2008). To this end, if the customization processes in games are more likely to increase players' satisfaction and affect processing in the central ELM route, the following occurs:

H1: When a brand is customized prior to play, brand recall will be higher compared to play without customization.

H2: When a brand is customized prior to play, attitudes toward the brand are more positive compared to play without customization.

H3: When a brand is customized prior to play, level of game enjoyment is higher compared to play without customization.

Locus of control is an important variable to measure the impact of brand customization on the dependent variables. It is important to account that individuals who develop a higher internal locus of control have a stable faith in their ability, or lack thereof, to exercise control over the outcomes of their lives. These individuals are more likely to engage in activities that will improve their situation, emphasize striving for achievement, and work harder to develop their knowledge, skills and abilities. Simply put, individuals with higher internal locus of control are more likely to be the individuals with a higher need for cognition, higher involvement, and higher motivation to process information during the brand customization process.

Given the above-outlined literature on locus of control, the following research questions are asked:

RQ1: Does locus of control moderate the impact of brand customization on brand recall?

RQ2: Does locus of control moderate the impact of brand customization on players' positive attitudes toward the brand?

RQ3: Does locus of control moderate the impact of brand customization on players' level of game enjoyment?

Chapter 3: Method

This chapter describes the research methodology used to test the hypotheses and research questions. Given the nature of the hypotheses, a laboratory experiment using participant randomization by condition (customization v. no customization) was employed.

Sample

A convenient sample of participants (N=60) was drawn from various undergraduate and graduate level courses at a large southwestern university. Although the choice of a convenience sample might limit external validity and pose other limitations, a student sample has been deliberately chosen to reduce individual level variation. Students should provide a homogeneous group in terms of demographics, and therefore any differences in the dependent variables would be mostly due to the manipulation rather than individual differences. The randomization of participants to different conditions should also randomize individual level of variation. Furthermore, according to the mediaegde:cia report (2005), 83% of the video gamers in the United States are between the age of 12 and 34. Also, it is important to note the goal of this study was not to estimate parameters in a defined population; instead the goal was to test for relationships among variables (Grabe and Westley 2003), and consequently, a student sample is justified.

Procedures

Participants were recruited from various undergraduate and graduate classes to participate in an on-location laboratory experiment. Once they arrived at the laboratory, they were told that the purpose of the study was to understand how people choose and use video games by looking at factors that influence their choices. Participants were given a written consent form to read and sign before participating in the study. The consent form informed the participants of their rights to confidentiality and ability to choose to end their participation in the experiment as well as the general purpose of the study. A researcher then assigned the subjects to a pre-exposure questionnaire in one of the laboratory computers.

After completing the pre-exposure questionnaire, subjects were seated comfortably in front of a monitor connected to a PlayStation 2 that had the Gran Turismo 3™ video game already preloaded. First, participants received driving instructions for the video game. The car in the video game was to be controlled by two arrow keys: left and right, X for acceleration, Square for break, Circle for handbrake, and Triangle for reverse.

After the driving instructions, participants in the customization condition were told to choose one of the available colors for their car, to purchase the car, and to get into the car. Then subjects were directed to the game auto shop, where they could use game credits to customize their car. The racing car could be customized with different suspensions, brakes, engines, intake systems, drive trains, turbo kits, and tires. Participants had as much time as they wanted to read the descriptions of all customizable parts and how they affect the car performance. After participants were done with their

customization, they were directed to a practice lap followed by a two-laps race against five other cars controlled by the game.

Participants in the no customization condition also started the game experience where players could purchase/get into the assigned car. However they were not allowed to choose the car color. After purchasing and getting into the assigned car (which was the same across all conditions), participants were directed to the same practice lap and race. Participants played for an average of 6 minutes, which is close to the average amount of time gamers typically spend on advergames (Hein 2006). Care was taken to keep the conditions such as the video game processing speed, volume level, and other environmental factors the same for both experimental groups. After all participants had finished playing the game, they were assigned to one of the laboratory computers to answer a post-exposure questionnaire on their level of game enjoyment, recall for the brand used during game play, and their attitudes toward the brand used during game play. Last, after participants had finished the game they were debriefed, thanked, and dismissed.

Variables

In this section, variables that were manipulated and measured along with a detailed description of the pre-exposure questionnaire, post-exposure questionnaire, and stimuli are presented.

Independent variable

Customization was the manipulated variable in this experiment. A 2 (customization v. no customization) x 2 (high internal locus of control v. low internal locus of control) between-subjects design was tested.

Customization High Internal Locus of Control	**Customization Low Internal Locus of Control**
No Customization High Internal Locus of Control	**No Customization Low Internal Locus of Control**

Dependent Variables

Recall score, attitudes toward the brand, and level of game enjoyment were the three dependent variables measured in the experiment.

Pre-exposure Questionnaire

In addition to gathering descriptive demographic data, the purpose of the pre-exposure questionnaire was to check the brand familiarity manipulation and classify participants according to their individual locus of control.

After completing the demographic questionnaire, participants indicated the extent to which they believe they can control events that affect them using a 23-item (M=28.3, SD=3.02) locus of control questionnaire developed by Rotter (1966). Before data analysis, a median split was computed on locus of control. Based on a scale ranging from 22 to 36, the median was 28. Each locus of control score was recoded as either 1 if the score was below the median (High Internals) or as 0 if the score was above the median 28

(Low Internals). The split between high and low internals locus of control was created and then used in data analysis.

One of the goals of this study was to rule out brand familiarity effects between the independent and dependent variables, so the brand Tommy Kaira was chosen for gameplay. To confirm that Tommy Kaira was an auto brand not familiar among participants, a manipulation check was run with participants rating how familiar they were with the brands featured in the game using a seven-point semantic differential scale ranging from 1-Not familiar to 7-Very familiar, obtained from Machleit et al. (1993). The manipulation check confirmed that Tommy Kaira (*M*=0.38, *SD*=1.01) was an unfamiliar brand among participants. Scores for brand familiarity are shown in Table 1.

Table 1. Brand Familiarity Index

Brand Familiarity				
	Minimum	Maximum	Mean	Std. Deviation
Mazda	.00	7.00	4.4310	1.98337
Peugeot	.00	7.00	2.7551	2.50442
Toyota	1.00	7.00	5.1186	1.90358
Daihatsu	.00	7.00	1.2826	1.73414
Chrysler	.00	7.00	3.9310	2.19139
Tommy Kaira	**.00**	**5.00**	**.3810**	1.01097
Honda	1.00	7.00	5.1667	1.84268
Ruff	.00	7.00	.6744	1.76906
BMW	1.00	7.00	5.1356	1.96923
Renault	.00	7.00	2.6250	2.54010

Post-exposure Questionnaire

Initial questions on the post-exposure questionnaire measured participants' level of game enjoyment. Game enjoyment was measured using a semantic differential scale with five bipolar items. These items were bad/good, unappealing/appealing, unpleasant/pleasant, boring/interesting, and dislike/like (M=22.7, SD=5.18, α=0.89). Similar scales have been used in advertising research to measure attitudes toward the game (Bruner, James, and Hensel 2000).

The post-exposure questionnaire also measured recall scores for the brand used by players during gameplay. Brand recall was measured by asking participants to list the automobile brands featured during gameplay (M=0.17, SD=0.37). The question measuring recall was deliberately asked before questions measuring subjects' attitude towards the brand, because mentioning the embedded brand just before measuring recall could contaminate the results.

Last, the questionnaire also measured attitudes toward the brand used in the video game. Attitudes toward the brand were measured using six point semantic differential scales: Bad/Good, Inferior/Superior, Dull/Exciting, Not a good value/A good value, Not as good as competing brands/As good as competing brands, I would not consider test driving/I would consider test driving (M=18.9, SD=4.45, α=0.87). This scale was used and adopted from MacKenzie and Lutz (1989). Attitudes toward the embedded brand were also measured through an open-ended question: "Describe the automobile brand you used during gameplay". Participants' answers were recoded to positive (M=0.55, SD=0.65) or negative (M=0.45, SD=0.53) and then used in data analysis.

Stimuli

Gran Turismo 3™ (GT3) for PlayStation 2 was the game chosen for this experiment because of several factors. First, GT3 is a highly successful and well-designed racing game, so subjects are more likely to participate in a study with this type of game than with a simple online advergame. Second, this game allowed the research to always single out one brand in order to replicate advergames' characteristics. All participants drove the automobile brand Tommy Kaira.

Third, GT3 simulates the appearance and performance of a large selection of real automobile brands as well as unknown brands. So it allowed this study to rule out brand familiarity moderating effects between variables, but still use familiar brands as competing brands to add realism. Last and most important, GT3 allowed its players to highly customize their cars with several different parts and colors. Therefore, the experiment could apply the customization and non-customization conditions to the same auto brand in the same video game. Screenshots of the game and customization process are included in the appendix D.

Descriptive Statistics

Sample Description

The sample consisted of 87% males and 13% females. Subjects' age ranged from 19 to 37 with an average age of 24 years old. The majority of the subjects were Anglo/Caucasian (32%) followed by Internationals (25%) and Hispanic Americans

(23%). The sample included a variety of majors and education levels with the majority of them being Advertising (37%) majors. Sample distributions by gender, age, race, and majors are included in Appendix E.

Chapter 4: Analysis

In this chapter, three hypotheses are tested. More precisely, the hypotheses tested are: (1) When a brand is customized prior to play, brand recall will be higher compared to play without customization, (2) When a brand is customized prior to play, attitudes toward the brand are more positive compared to play without customization, (3) When a brand is customized prior to play, level of game enjoyment is higher compared to play without customization. In order to test the hypotheses, data were entered, coded, cleaned in PAWS/SPSS Statistics 18.0, and t-tests were calculated.

Besides testing for the above-outlined hypotheses, this study seeks to answer three research questions: (1) Does locus of control moderate the impact of brand customization on brand recall? (2) Does locus of control moderate the impact of brand customization on players' positive attitudes toward the brand? (3) Does locus of control moderate the impact of brand customization on players' level of game enjoyment? In order to answer these research questions, data were entered, coded, cleaned in PAWS/SPPS Statistics 18.0, and ANOVAs were calculated to test between-subjects effects on the dependent variables.

Hypotheses Testing

To test hypothesis 1, an independent samples t-test was run with recall as the dependent variable. The two groups tested were (1) subjects who didn't customize the brand during gameplay, and (2) subjects who customized the brand during gameplay. The

results of the t-test reveal that on average, subjects in the customization condition (M=0.26, SD=0.45) remembered the brand they used during game play four times as much when compared to subjects in the no customization condition (M=0.07, SD=0.25). Therefore, hypothesis 1 was supported by the data, $t(58)=-2.12$, $p<0.05$.

Hypothesis 2 assumes that gamers who customized the brand during game play would have more positive attitudes toward the brand. The results of the t-test reveal that the mean difference between subjects who did not customize the brand (M=18.5, SD=4.77) and subjects who customized the brand (M=19.3, SD=4.12) is not statistically significant for positive brand attitude, $t(58)=-.67$, $p>0.05$. Therefore, this hypothesis was not supported.

However, results indicate that participants under the customization condition had less negative affective responses when they described the brand used in the game. On average, subjects in the no customization condition (M=0.60, SD=0.56) negatively described the brand twice as much as subjects in the customization condition (M=0.30, SD=0.47). This mean difference was significant, $t(58)=2.25$, $p<0.05$.

Hypothesis 3 is interrelated to hypothesis 2, and assumes the level of game enjoyment is higher for game players in the customization condition. As mentioned previously, studies in the past such as Bailey, Wise, and Bolls (2009) found that in-game customization increased players' feelings of identification and presence in the game world, subsequently, making the game more enjoyable. Ostrom and Iacobucci (1995) also found a strong impact of customization on gamers' satisfaction. Besides, when players customize their car on Gran Turismo 3™, they are more likely to improve their car and

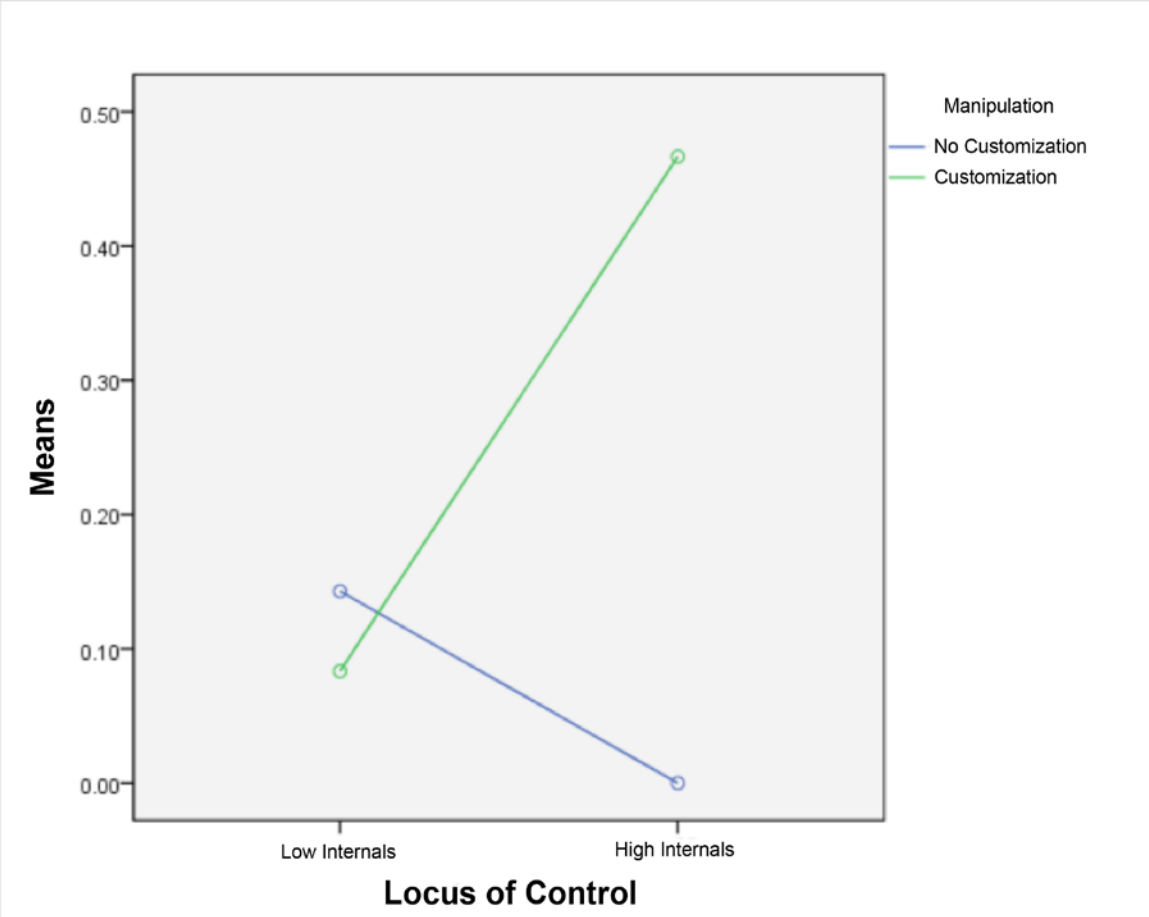
game performance, subsequently, increasing game enjoyment. Although not analyzed for interactions with other variables in this study, the average finishing race position for players under the customization condition (M=3.77, SD=2.22) was better than from players under the no customization condition (M=4.6 SD=1.81).

The results of the t-test reveal that for game enjoyment the mean difference between subjects who did not customize the brand (M=22.7, SD=4.88) and subjects who customized the brand (M=22.6, SD=5.48) is not statistically significant, $t(58)=0.05$, $p>0.05$. Therefore, this hypothesis was not supported.

Research Questions Testing

Research question 1 asked if an individual's locus of control moderate the impact of customization on brand recall scores. Results showed a significant interaction between customization and individuals' locus of control ($F(1,50)=7.29$, $p=0.009$) on brand recall. Thus, locus of control functioned as a moderating variable for the relationship between customization and brand recall. See Figure 1 for a line graph of the data.

Figure 1. *Brand Recall*



Research question 2 asked if an individual's locus of control moderated the impact of customization on attitudes toward the brand. Results showed no significant interaction between customization and individuals' locus of control ($F(1,50)=0.288$, $p=0.594$) on positives attitudes toward the brand. Thus, locus of control did not function as a moderating variable for the relationship between customization and brand attitude.

Research question 3 asked if an individual's locus of control moderate the impact of customization on game enjoyment. Results showed no significant interaction between customization and individuals' locus of control ($F(1,50)=0.280$, $p=0.599$) on game enjoyment. Thus, locus of control did not function as a moderating variable for the relationship between customization and game enjoyment.

Chapter 5: Conclusion

The technological advances, especially the development of ad-skipping technologies, gave consumers more power to decide when to give their attention and time to advertising messages. Consequently, today's consumers are more willing to give their attention to advertisers that can give them something engaging (Chang 2009), and TV viewers are zipping and zapping through commercials. As result, several companies such as Nike, Burger King, and BMW among others are shifting their budgets from traditional media to more interactive and digital media such as advergames. Therefore, it is necessary to understand how the content of advergames affect the way gamers' process the embedded brands.

This thesis examined brand customization effectiveness in advergames in terms of game play outcomes. More specifically, recall, brand attitude, and game enjoyment were measured and compared between two groups: individuals who customized the brand during gameplay and individuals who did not customize the brand during gameplay. Individuals' locus of control was also analyzed as a potential moderating factor within each analysis.

The overarching conclusion of this study is that individuals who customize the brand during gameplay recall the brand almost four times as much when compared to individuals who don't customize the brand during gameplay. This finding is valuable for advertising agencies and marketers, since industry experts claim that two of the main

purposes of advergames are to introduce new brands and to boost brand awareness. This study also found a significant interaction between individuals' locus of control and customization on brand recall.

However, the two other hypotheses presented in this study, that when a brand is customized prior to play, attitudes toward the brand are more positive compared to play without customization and when a brand is customized prior to play, level of game enjoyment is higher compared to play without customization, were not supported. This might be due to the existence of moderators in the relationship between these variables. For example, game performance and the complexity of the customization may moderate the relationship between customization, game enjoyment, and subsequently, positive brand attitude.

Lastly, this study was unable to find any interactions between individuals' locus of control and customization for attitude toward the brand and game enjoyment.

Practical and Theoretical Implications

This study has direct implications for advertisers looking for new media in which to spend advertising dollars, especially in the medium of video games. With the new technologies and changing media audiences, there has been an increased usage of advergames in the media mix (Business Wire 2008). But despite the increasing usage of video games as an advertising medium, marketing managers and academics do not have an extensive knowledge of the actual impact and effectiveness of advergames. This study adds another block toward understanding the effectiveness of advergames and presents a

means for formulation of new media strategies based on the findings obtained. For instance, this study found that recall scores were higher for individuals who customize the brand during gameplay. Thus, this study recommends that interactive agencies and game developers improve or increase the customization offered to game players in advergames, especially for companies that are introducing new brands or trying to boost brand awareness.

Theoretically, the study provides empirical evidence for differences between brand customization and no customization on brand recall. The higher recall score for participants in the customization condition show that customization affects processing in the central route. As the ELM posits, messages processed through the central route are distinct because they are relatively easy to be called to mind (Severin and Tankard 2001). The study also found a significant interaction between individuals' locus of control and brand customization on recall, adding one more body of literature to studies on video game psychology.

Limitations

Inherent within any study are limitations that affect the overall validity and reliability of the results. Apart from the limitation of the student sampling as previously discussed in the methods section, this study dealt with one particular type of game, the car racing video game Gran Turismo 3™ for PlayStation 2. This seriously limits the scope of this study and its findings. Results might vary with different genres of game. For

example, brand recall rates might have been different for the same manipulation, if another type of game such as a fighting game or an adventure fantasy game was used.

In addition, this study tested for the relationship among variables in a console game platform. This also limits the scope of this study, because, although console games are still a significant portion of the hardcore gamer demographic, the most growth in advergaming is happening on the Internet. That said, the functionality of the games is similar and thus, it is expected that these findings would carry over to the online-based advergames.

Future Directions

A number of issues arose during the course of this study that present opportunities for future research. Studies on brand customization in advergames should take into consideration different game genres, duration of the customization process, and brand-plot congruency among other variables. Furthermore, it would be interesting to test the same variables used in this study in online advergames, because the Internet is where advergames are proliferating. In terms of recall, future research should study the long-term effects of advergame brand customization on recall. This is because most experiments, such as this one, have studied the short-term effects on recall. The delayed effect on brand recall is typically a missing factor in related studies.

If this work aspires to achieve anything, it is to provide a few starting points for further investigation and discussion. By taking the abovementioned suggestions into

consideration, future studies that examine brand customization in advergames should be improved and provide more significant results.

Appendices

A. Experimental Protocol

Video Game Study

1. Welcome the subjects.

   "Thank you for coming to participate in a video game study. We are working on understanding how people choose and use video games by looking at factors that influence their choices.

2. Sit them in front of a computer (subjects take the pre-exposure questionnaire). Allow the subjects to complete pre-exposure questionnaire.

3. Sit them in front of the video game (make sure subjects are comfortable) and inform them how to play the game.

   a. The object is to race the car to the finish line and win the race.
   b. Driving controls are **right arrow** – to turn right, **left arrow** – to turn left, **"X"** – to accelerate, **"O"** – to brake, **"Triangle"** – to reverse, **"Square"** – hand brake
   c. Tell subjects to purchase and get into the car. **Customization condition** – lets subjects choose the car color, verbally direct them to

the game auto shop, briefly give them customization instructions, and allow subjects to complete the customization).

d. Direct subjects to the assigned race.

4. After task completion, sit subjects in front of a computer (subjects take the post-exposure questionnaire). Allow subjects to complete the post-exposure questionnaire.

5. While subjects are taking the post-exposure questionnaire, save their finishing race position.

6. Finally, debrief them and thank them for their time. Answer any questions they might have about the purpose, game, or experiment.

7. Repeat steps for the next subject.

Debriefing

"The purpose of the experiment was to investigate the effectiveness of brand customization in advergames. Some of you customized the car before the race and some of you didn't. The post experiment questionnaire measured the different variables on which the two different groups were compared. Do you have any questions?".

B. Pre-exposure Questionnaire

Choose which statement is true.
• Children get into trouble because their parents punish them too much.
• The trouble with most children nowadays is that their parents are too easy with them.

Choose which statement is true.
• Many of the unhappy things in people's lives are partly due to bad luck.
• People's misfortunes result from the mistakes they make.

Choose which statement is true.
• One of the major reasons why we have wars is because people don't take enough interest in politics.
• There will always be wars, no matter how hard people try to prevent them.

Choose which statement is true.
• In the long run people get the respect they deserve in this world.
• Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

Choose which statement is true.
• The idea that teachers are unfair to students is nonsense.
• Most students don't realize the extent to which their grades are influenced by accidental happenings.

Choose which statement is true.
• Without the right breaks, one cannot be an effective leader.
• Capable people who fail to become leaders have not taken advantage of their opportunities.

Choose which statement is true.
• No matter how hard you try, some people just don't like you.
• People who can't get others to like them don't understand how to get along with others.

Choose which statement is true.
• Heredity plays the major role in determining one's personality.
• It is one's experiences in life which determine what they're like.

Choose which statement is true.
• I have often found that what is going to happen will happen.
• Trusting fate has never turned out as well for me as making a decision to take a definite course of action.

Choose which statement is true.
• In the case of the well-prepared student there is rarely, if ever, such a thing as an unfair test.
• Many times, exam questions tend to be so unrelated to course work that studying in really useless.

Choose which statement is true.
• Becoming a success is a matter of hard work, luck has little or nothing to do with it.
• Getting a good job depends mainly on being in the right place at the right time.

Choose which statement is true.
• The average citizen can have an influence in government decisions.
• This world is run by the few people in power, and there is not much the little guy can do about it.

Choose which statement is true.
• When I make plans, I am almost certain that I can make them work.
• It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

Choose which statement is true.
• There are certain people who are just not good.
• There is some good in everybody.

Choose which statement is true.
• In my case getting what I want has little or nothing to do with luck.
• Many times we might just as well decide what to do by flipping a coin.

Choose which statement is true.
• Who gets to be the boss often depends on who was lucky enough to be in the right place first.
• Getting people to do the right thing depends upon ability - luck has little or nothing to do with it.

Choose which statement is true.
• As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
• By taking an active part in political and social affairs the people can control world events.

Choose which statement is true.
• Most people don't realize the extent to which their lives are controlled by accidental happenings.
• There really is no such thing as "luck."

Choose which statement is true.
• One should always be willing to admit mistakes.
• It is usually best to cover up one's mistakes.

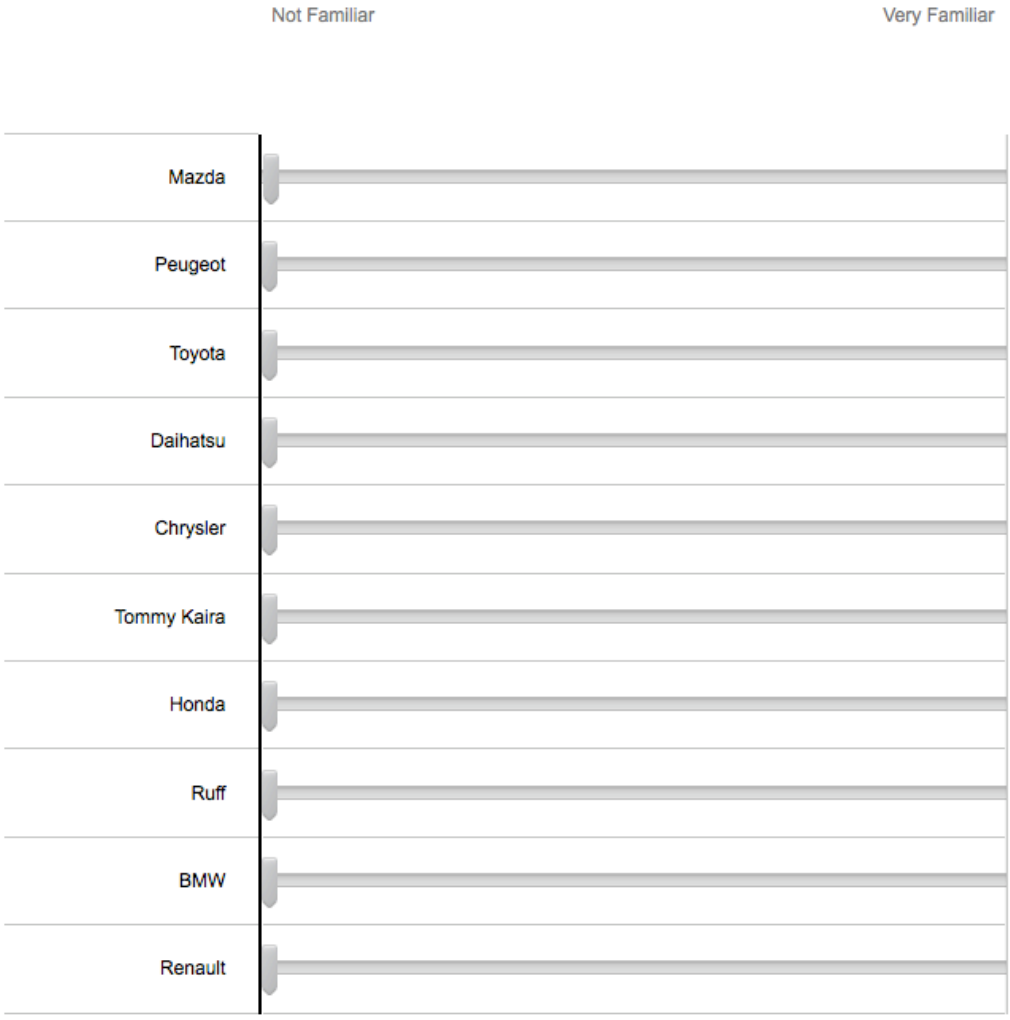
Choose which statement is true.
• It is hard to know whether or not a person really likes you.
• How many friends you have depends upon how nice a person you are.

Choose which statement is true.
• In the long run the bad things that happen to us are balanced by the good ones.
• Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

Choose which statement is true.
• With enough effort we can wipe out political corruption.
• It is difficult for people to have much control over the things politicians do in office.

Choose which statement is true.
• Sometimes I can't understand how teachers arrive at the grades they give.
• There is a direct connection between how hard I study and the grades I get.

Please indicate how familiar you are with each of the following automobile brands.



C. Post-exposure Questionnaire

For each of the items below, select the space that best describes your overall feelings about the video game you just played.

Bad	○	○	○	○	○	○	○	Good
Unappealing	○	○	○	○	○	○	○	Appealing
Pleasant	○	○	○	○	○	○	○	Unpleasant
Interesting	○	○	○	○	○	○	○	Boring
Dislike	○	○	○	○	○	○	○	Like

Please list all the automobile brands featured in the video game you just played.

The automobile brand Tommy Kaira is:

Bad	○	○	○	○	○	Good
Superior	○	○	○	○	○	Inferior
Not as good as other brands	○	○	○	○	○	As good as other brands
A good value	○	○	○	○	○	Not a good value
Exciting	○	○	○	○	○	Dull
An auto brand I would consider test driving	○	○	○	○	○	An auto brand I would not consider test driving

Describe the automobile brand you used during gameplay.

D. Game Screenshots


Suspension & Brakes
Engine & Intake System
Drivetrain
Turbo Kit System
Tires
Stability Control & Others


Suspension / Full Customize
Cr. 17,000
BUY
Enables tuning of all suspension parts. Adjusts shock absorbers, replaces springs with ones with different spring rates, and replaces the stabilizer (anti-roll bar), which controls the vehicle's lateral roll stiffness. Wheel camber can be changed, and toe-in is also adjustable. Shock absorber compression (bump) and extension (rebound) are independently adjustable to one of 10 levels.
day 181 Cr 120,649
ZZS(J)


6th
Lap 1/2
Best --'--.---
Last --'--.---
Lap 0'24.000
5 mph
ASM TCS


RACE MENU
2 Laps
1 206 S16
2 Mazda MX-5 Miata
3 MR-S S EDITION(J)
4 STORIA X4(J)
5 PT Cruiser
6 ZZS(J)
START
QUALIFY
SETTING
OPTIONS
EXIT
Start Finals

E. Descriptive Statistics

Sample Distribution by Gender

Gender	Frequency	Percent
Male	52	86.7
Female	8	13.3
Total	60	100.0

Sample Distribution by Year of Birth

Year of Birth	Frequency
1973	1
1974	1
1976	2
1977	2
1981	4
1982	3
1983	2
1984	5
1985	2
1986	6
1987	5
1988	14
1989	5
1990	6
1991	2
Total	**60**

Sample Distribution by Race

Race	Frequency	Percent
Anglo	19	31.7
African American	2	3.3
Asian American	5	8.3
Hispanic American	14	23.3
Multiracial	5	8.3
International	15	25.0
Total	60	100.0

List of Majors that Participated in the Study

Major	Frequency
Advertising	22
Architecture	1
Biochem	1
Business Administration	2
Chemistry	2
Civil Engineering	1
Communication Studies	2
Computer Science & Mathematics	2
Corporate Communications & Spanish	1
Economics	1
Electrical and Computer Engineering	1
Film Studies	1
Finance	1
General Studies	1
government/ public relations	2
graphic design	1
history	1
Law	1
Management Information Systems-Business	1
Marketing	4
Mechanical Engineering	3

petroleum engineering	1
Philosophy	1
Public Relations	1
rtf	2
Studio Art	1
Undecided	1

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Vita

José Jorge Paes Peixoto Netto was born and raised in the “Marvelous City” Rio de Janeiro, Brazil. His parents José Jorge Soares Netto and Rita de Cassia Paes Peixoto Netto are both doctors settled in Rio. After completing his work at Colégio Bahiense in 2001, he entered Barton College in Wilson, North Carolina, subsequently, transferring to Utah State University in Logan, Utah to play for the Utah State University men’s tennis team. He received the degree of Bachelor of Arts from Utah State University in May 2007. In August, 2008, he entered the Graduate School at The University of Texas at Austin. He is currently working as a creative copywriter/art director at LatinWorks in Austin, Texas.

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